

CLAIMS

What is claimed is:

- 1 1. An auxiliary power system for operation in cooperation with a primary engine  
2 having a battery, comprising  
3 (A) a secondary engine, and  
4 (B) control means which shuts down such primary engine and starts such  
5 secondary engine following a predetermined time period of idling of such primary  
6 engine.
- 1 2. The auxiliary power system of claim 1, in which  
2 such control means starts such secondary engine in response to a predetermined  
3 ambient temperature if such primary engine is not operating.
- 1 3. The auxiliary power system of Claim 1, further comprising  
2 an electrical power producing means driven by such secondary engine.
- 1 4. The auxiliary power system of Claim 3, in which  
2 such electrical power producing means comprises a 240vac, 60Hz, single-phase  
3 electrical generator.
- 1 5. The auxiliary power system of Claim 4, in which  
2 such electrical generator produces at least 17 kva of power.
- 1 6. The auxiliary power system of Claim 4, further comprising  
2 battery charging means.

- 1 7. The auxiliary power system of Claim 6, in which  
2 such control means  
3 (i) isolates the battery of the primary engine from all dc loads upon  
4 operation of such secondary engine, and  
5 (ii) continuously charges the battery during operation of such  
6 secondary engine.
- 1 8. The auxiliary power system of Claim 1, further comprising  
2 (A) primary engine coolant pumping means, and  
3 (B) heat exchanging means.
- 1 9. The auxiliary power system of Claim 8, further comprising  
2 engine coolant heating means.
- 1 10. The auxiliary power system of Claim 9 further including,  
2 coolant temperature sensing means, and in which  
3 such control means maintains primary engine coolant temperature within a  
4 predetermined temperature range.
- 1 11. The auxiliary power system of Claim 9, in which  
2 such engine coolant heating means comprises electric heaters.
- 1 12. The auxiliary power system of Claim 1, further comprising  
2 primary engine lube-oil pumping means.
- 1 13. The auxiliary power system of Claim 12, further comprising,  
2 lube-oil heating means.

1 14. The auxiliary power system of Claim 13, further including,  
2 primary lube-oil temperature sensing means, and in which  
3 such control means maintains primary engine lube-oil temperature within a  
4 predetermined temperature range.

1 15. The auxiliary power system of Claim 13, in which  
2 such lube-oil heating means comprises electric heaters.

1 16. The auxiliary power system of Claim 1, further comprising  
2 a remotely operable primary engine coolant drain valve.

1 17. The auxiliary power system of Claim 16, in which  
2 such control means causes such remotely operable drain valve to open and drain  
3 the primary engine coolant after a predetermined period of time in response to a  
4 predetermined ambient temperature if such primary engine is not operating and such  
5 secondary engine fails to start.

1 18. A method of supplying auxiliary power to a primary engine comprising the steps  
2 of

3 (A) providing a secondary engine coupled to an electrical generator

4 (B) monitoring the operating condition of such primary engine

5 (C) starting such secondary engine in response to a predetermined condition of  
6 such primary engine.

- 1     19.     Method of claim 18, in which  
2             the predetermined condition of such primary engine is selected from the group  
3     consisting of:  
4             (i)     idling of such primary engine for a predetermined period of time,  
5     and  
6             (ii)    non-operation of such primary engine combined with a  
7     predetermined ambient temperature.
- 1     20.     Method of claim 18, further comprising  
2             providing heating means for such primary engine coolant, and  
3             providing heating means for such primary engine lube-oil.